

Alaska Department of Fish and Game

Division of Commercial Fisheries Professional Paper



Professional papers include published manuscripts that address management issues or research undertaken by the Alaska Department of Fish and Game, and are prepared by division personnel for publication in a professional journal. The primary audience will be fishery professionals, but some papers may be of interest to other disciplines. For access to these papers see the electronic links provided below.

Habicht, C., G. D. Miller, D. Evans, R. Heintz, and J. Seeb. 1999. Intensive flow cytometry analyses do not detect macro lesions in pink salmon embryos following crude oil exposure. Pages 46-61 [In] J. E. Seeb and C. Habicht, editors. Exxon Valdez oil spill restoration project final report: Laboratory examination of oil-related embryo mortalities that persist in pink salmon populations in Prince William Sound. Restoration project 97191A-2 Final Report.

Abstract: Field data and evidence from experimental matings suggest that germline genetic damage occurred in pink salmon (*Oncorhynchus gorbuschu*) embryos inhabiting streams affected by the 1989 Exxon Valdez oil spill. Flow cytometry has proven to be a rapid screen for detection of structural chromosome damage in similar studies of the effects of genotoxins in the environment. However, flow cytometry analysis of pink salmon embryos and larvae exposed in the laboratory to Exxon Valdez crude oil failed to detect clastogenic effects in our experiment. We had enough statistical power to detect treatment differences as small as the smallest differences detected in similar studies in the literature. These data do not support the hypothesis that North slope crude oil in incubation substrate, at concentrations up to 5.7-g oil/kg gravel causes structural chromosome damage in pink salmon embryos.

Keywords: flow cytometry, structural chromosome damage, DNA, pink salmon embryos, crude oil

URL: www.evostc.state.ak.us/Store/FinalReports/1997-97197-Final.pdf

You may be directed away from the ADF&G website. You may be required to pay a fee to view the full-text article. Library assistance may available through the Alaska Resources Library and Information Services (ARLIS) <http://www.adfg.alaska.gov/index.cfm?adfg=libraryarlis.main> or through your local library.

Paper No. CFPP.135